The New SatCatcher DigiPro Excel-TV MK3

Fully-fledged Signal Meter with TV display

For as long as we can think back, our magazine's 'agony aunt' has always received tons of letters and mails from readers struggling to correctly align their satellite antennas. We were able to help solve hundreds of problems, but more recently the single biggest issue has been the increasing absence of analog channels, because being stuck with digital signals only can easily turn into every satellite enthusiast's nightmare.

Up until a few years ago almost every satellite had still transmitted at least some analog channels which could be used as points of reference when moving the antenna. You simply selected the appropriate channel on the receiver and slightly moved the antenna until the appropriate channel appeared on screen (faintly and full of video noise first, but improving after some antenna adjustment).

With digital receivers this is not possible any longer. Their signal strength indicators react too slowly when the selected transponder is finally found, and the level of signal strength and quality they display is frequently rather unreliable. Waiting for a channel to gradually appear on screen doesn't lead anywhere either, because with digital you either have a perfectly clear picture or none at all.

British company SatCatcher has quickly identified this market gap and launched an easy-to-use measuring device with excellent value for money, which helps aligning an existing antenna to any available satellite in next to no time at all. What's even more, this new device doesn't cost you a fortune. About a year ago we tested the SatCatcher DigiPro Excel-TV MK2 (TELE-satellite issue 08-09/2008). In the meantime the manufacturer has not rested on its laurels but rather implemented a number of user suggestions and some design refinements, which resulted in the new model DigiPro Excel-TV MK3.

Nothing has changed on the outside. The SatCatcher DigiPro Excel-TV MK3 still comes with an extremely heavy-duty aluminium carrying case which is foam-coated on the inside. This makes sure the device is safe even when the going gets tough every once in a while. While we didn't try to find out how safe this protection really is we nonetheless are convinced the SatCatcher will not be damaged if dropped several meters, thanks to its carrying case.

The meter itself is covered with a robust cloth lining featuring openings for all connections as well as a flap for protecting the 128x64 pixel LCD display. We have special praise for the included sun visor which can easily be attached to the cloth cover of the SatCatcher and which is a godsend for reading the display even in direct sunlight.

In addition, the aluminium carrying case has room for the internal battery's charger, an adaptor cable for connecting the device to the on-board power supply in cars and trucks, a cable to connect the device to a PC as well as a serial->USB adapter in case your PC is not equipped with a serial interface. The driver required comes on CD, which also includes the in-house SatCatcher software application. Our package also came with a comprehensive user manual in English, even though SatCatcher's global distribution partners will ship the device with instructions in the respective local languages to make sure each customer receives the manual in their own language.

As far as connections are concerned the DigiPro Excel-TV MK3 features a satellite IF input as well as a RCA video output on the top side and the power socket for the external power pack as well as an interface for PC connection on the bottom side.

The overall quality of workmanship leaves a very good impression, supported by small but very welcome details such as a warning message and automatic switch-off in case a short circuit occurs along the signal line to the LNB.

Everyday use

SatCatcher generally does not ship their satellite meter with a fully charged battery, which means that according to the manual the built-in battery needs to be charged for approximately five hours before use. The test model we were sent, however, was ready to go and we could begin our tests right away.

What strikes the eye at first sight is SatCatcher's effort to use as few buttons and switches as possible for the DigiPro Excel-TV MK3, which is something we cannot praise highly enough. One part of this laudable strategy is using four function buttons right below the display. They are labelled F1 through F4 and can be used for a variety of operations, each of which is clearly described in the lowest display line right above each button. In addition, there are seven easily readable function keys in all the right places, as well as arrow keys and a number pad with buttons from 0 to 9.

As soon as you switch on the unit with the large and not-to-miss power button the meter displays the main menu from where the various sub-items are easy to access. Thanks to the wonderfully efficient function keys major items can also be accessed with a single touch of a button rather than by navigating through the display menu.

Even though the SatCatcher clearly is a measuring device for more sophisticated use, the manufacturer has still attempted to design a clear and self-explaining menu structure. The DigiPro Excel-TV MK3 has various operating modes, like signal measuring, spectrum analyser or TV display. The latter is a feature we usually only expect from top-of-the line products with a correspondingly high price. Thanks to the implementation of newly available innovative technology SatCatcher has managed to make this avail-

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SATCATCHER
DIGIPRO EXCEL-TV MK3
Easy and self-explanatory – a device for laymen and pros alike

able in the more affordable models as well.

Which satellite equipment is supported?

The SatCatcher DigiPro Excel-TV MK3 is a truly universal satellite meter which supports all DiSEqC protocols and can therefore be used in any possible reception set-up.

This means that a single antenna can be correctly aligned as easily as a complex DiSEqC 1.1 design with up to eight LNBs, a DiSEqC 1.2 or 1.3 (USALS) motorised antenna, a monoblock LNB with DiSEqC 1.0 switch or the somewhat more complicated SCR technology (Unicable). As the saying goes: the sky's the limit! Even the LOF can be entered manually so that all frequency bands and ranges from the C band all the way to the S band can be thrown at this neat device.

Aligning the antenna

At first we attached the meter to a standard 80cm offset antenna with a single LNB, which needed to be aligned towards ASTRA2 at 28.2° East.

The nicely up-to-date internal data memory of the DigiPro Excel-TV MK3 includes all satellite positions between 45° East and 34.5° West so that it is easy to find the corresponding entry on the memory list. Incidentally, SatCatcher even provides a pre-programmed list of global transponder data which features information for positions outside the range specified above. Alternatively, it is always an option to manually enter a transponder of ASTRA2 at 28.2° East, but why bother if the DigiPro Excel-TV MK3 lets you do it the easy way?

Speaking of helping hands, we should like to emphasise that the SatCatcher's pre-stored list features individual parameters for various polarisation and sometimes even for different satellites sharing the same orbital position.

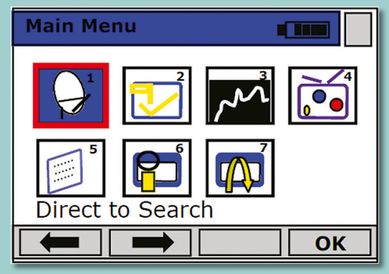
This is a very convenient feature, considering that individual co-positioned satellites may have dramatically different footprints and consequently might be unavailable at certain locations. Just take the classic example of ASTRA2D at 28.8 East in Central Europe. While its signals come in perfectly with only a 60cm dish in Great Britain and 90 to 120 cm are sufficient for reception in France and Germany, a huge 2.4 meter antenna would be required to collect signals at the TELE-satellite test center in Vienna/Austria.

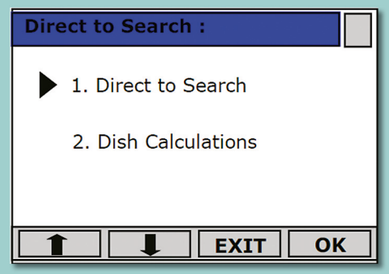
So once we had selected the satellite we wanted, the DigiPro Excel-TV MK3 started right away to calculate the corresponding Azimuth, elevation and polarisation angle parameters. In addition, a compass inserted on the display shows the approximate position of the correctly aligned antenna. Please note, however, that the meter's geographic location has to be set first to make sure these calculations can be performed correctly, as the DigiPro Excel-TV MK3 does not have a built-in GPS receiver.

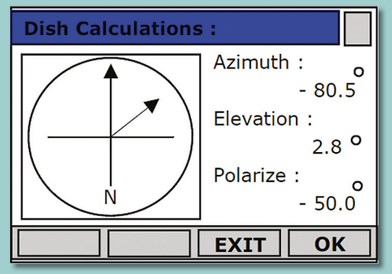
A dedicated settings menu is available for entering the location data, which can easily be obtained from Google Earth, for example. Alternatively, you can decide to connect the satellite meter to the PC before aligning the antenna and to run the SatCatcher software provided on CD-ROM. With this application it is easy to find your location on a comprehensive list of cities and countries.

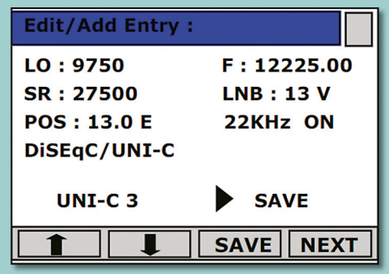
Once we had finished setting the antenna's elevation correctly we simply started moving it until the peaks in the spectrum analyser display become more pronounced and – above all – until the white line signifying the chosen ASTRA2 28.2° East transponder was right in the middle of

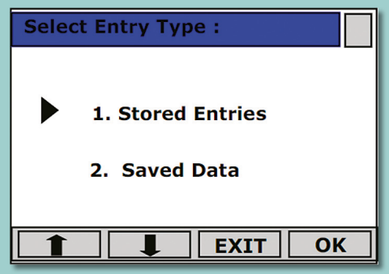
SATCATCHER

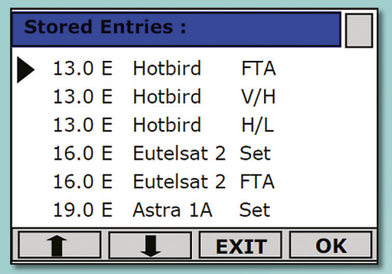


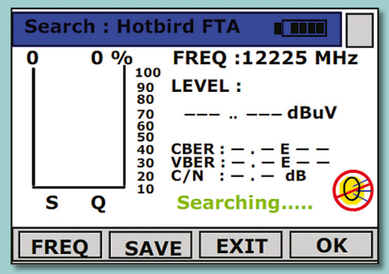


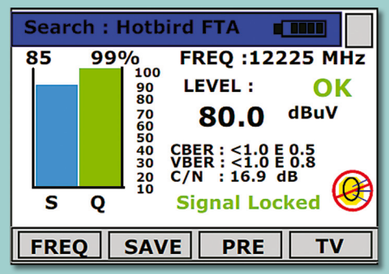


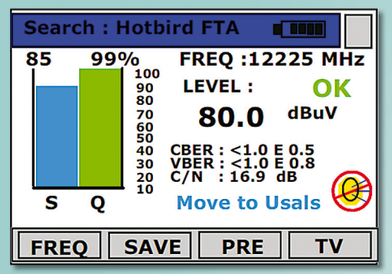


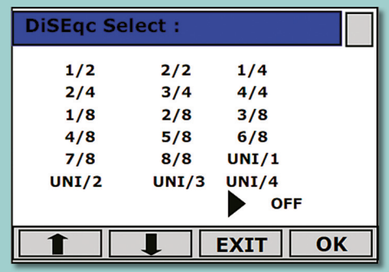


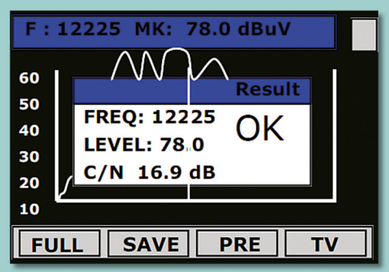


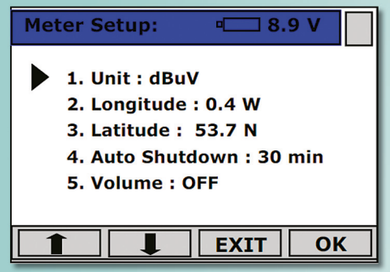


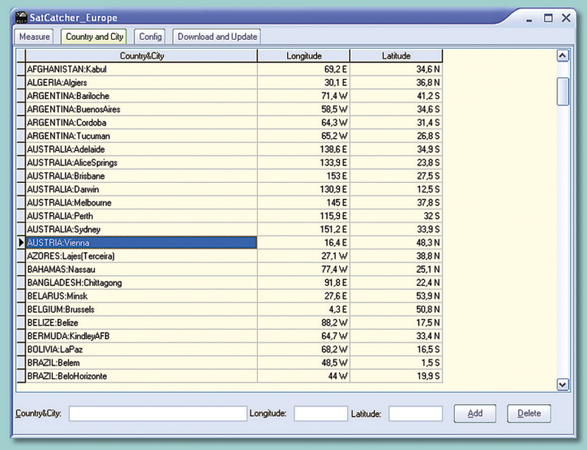


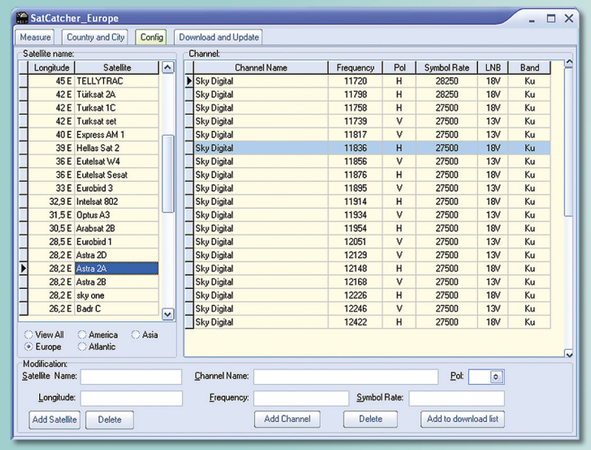












■ SatCatcher Software showing a selection of locations

■ Checking transponder entries

the spectrum peaks. Still not sure if you've got it right? Well, just use the 'Check' function to find out whether the antenna is aligned to a satellite and is receiving a usable signal.

However, we're still in doubt whether the satellite we're receiving is actually the one we're looking for. The solution is simple: As soon as a signal is detected and the DigiPro can lock the found transponder the corresponding information pops up on the display. Now all you have to do is change to TV mode to see the first available channel. It should be noted, that this works only with free-to-air channels, as the DigiPro Excel-TV MK3 does not come with a CI slot for pay TV smart cards.

We checked the results against information obtained from www.SatcoDX.com and were pleased to discover that we hit ASTRA2 at 28.2° East spot on. This allowed us to proceed to fine-tuning right away. A separate menu item is available for this procedure and displays two large bars for signal quality and signal strength, as well as the values for CBER (Channel Bit Error Rate), VBER (Viterbi Bit Error Rate) and signal level with C/N (Carrier to Noise Ratio).

We would also have appreciated the MER (Modulation Error Rate) which the DigiPro Excel-TV MK3 unfortunately does not display. If you prefer to adjust your antenna without constantly keeping an eye on the satellite meter you can of course rely on acoustic representation of the signal strength as well. In this case the pitch of the tone increases as the signal gets stronger.

To summarise, the DigiPro Excel-TV MK3 helped us align the antenna within no more than a few minutes and a check with the meter confirmed that we had not only hit our target, but also achieved the best possible reception quality.

Function key F2 with the labelling "Save" features prominently in both the spectrum display and the menu for fine-tuning. What it does is save the spectrum pattern of a satellite, which is an extremely smart feature that we fell in love with at first sight.

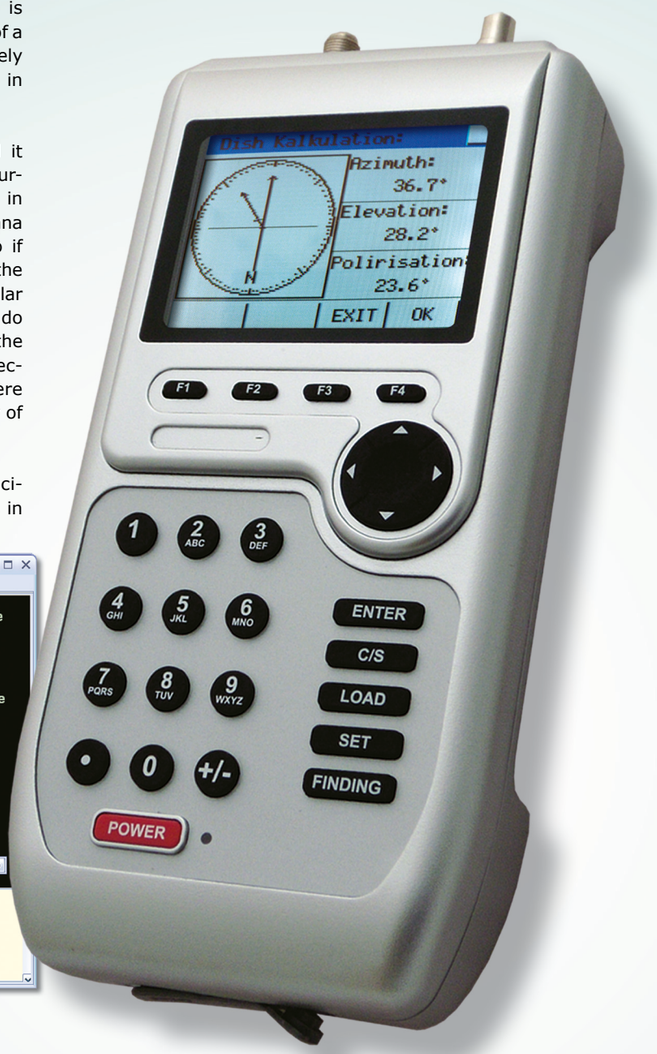
Once a pattern is saved it can be inserted over the currently received spectrum in future every time the antenna needs to be re-aligned. So if the need arises to align the antenna again to a particular satellite, all you need to do is move the antenna until the stored and the current spectrum patterns match. There can hardly be an easier way of re-finding a satellite.

We also highly appreciated the four zoom modes in the spectrum display, which allow a close examination of individual signal peaks. When working in spectrum analyser mode we noticed that the display reacts quickly and with hardly any lag at all.

Apart from spectrum patterns, the unit is capable of storing measurement results, which is helpful with motorised dishes to determine whether recent antenna movements have improved or deteriorated the reception of the westernmost and easternmost positions. Up to 40 entries can be stored in the SatCatcher DigiPro Excel-TV MK3's memory, each of which can be filled with either a spectrum pattern or measurement data.

DiSEqC, motorised antennas and SCR (Unicable)

As mentioned above the SatCatcher DigiPro Excel-TV MK3 is compatible with all DiSEqC protocols. With DiSEqC 1.0 up to four satellites can be received, with this number rising to eight if DiSEqC 1.1 is used. Motor protocols DiSEqC 1.2 and 1.3 (USALS) are also dealt with flawlessly and with the single touch of a button a DiSEqC motor moves the dish to the all important zero position. Alternatively, the SatCatcher satellite meter can command antenna movement to the East or to the West, even with-



■ Calculation of azimuth, elevation and polarization angle

out any external power supply thanks to the built-in battery. Aligning a DiSEqC motorised dish with the SatCatcher DigiPro Excel-TV MK3 turned out to be real fun rather than tiresome hassle and the whole process went about much speedier than with many professional meters we have tried in the past. Now we can really say good-bye to the times that required a team of two for adjusting DiSEqC motors.

Since we happened to have set up a small SCR (Unicable) distribution system with two different matrices for another test this gave us ample opportunity to verify the manufacturer's claim of full Unicable compatibility. Would it deliver as brilliant results as SatCatcher's other features?

All we really had to take note of was that Unicable commands 1, 2, 3 and 4 in the SatCatcher DigiPro Excel-TV MK3's menu correspond to SCR commands 0, 1, 2 and 3. Once that was established we quickly hooked up the meter to our SCR matrix and went on to connect two more receivers. It came as no big surprise that the satellite meter delivered first-rate results as long as these two additional receivers remained switched off. The moment of truth only arrived as soon as they had been turned on. And voilà, the SatCatcher DigiPro Excel-TV MK3 still displayed a brilliant TV picture after the appropriate frequency had been selected.

Our verdict: SCR commands and SatCatcher form an excellent team. One of SatCatcher advertising claims is full compatibility of the DigiPro Excel-TV MK3 with Unicable LNBs provided by Italian pay TV platform Sky Italia. Never believe a claim without verification, we thought, and called up our colleague at the Italian Test Center of TELE-satellite to arrange for a Sky Italia LNB to be sent to Vienna. And what can we say – it was yet another test the SatCatcher DigiPro Excel-TV MK3 passed with flying colours. Soon after we had mounted the LNB and activated Unicable mode signals from HOTBIRD 13° East started flowing in.

Let's add some general remarks about this handy new satellite meter now. Throughout our test we noticed the surprisingly high capacity of the battery. Not once did we have to interrupt our test for charging and it wasn't before the DiSEqC motor test that we realised that moving the antenna frequently does indeed draw a lot of power from the battery. Overall, however, we were using the device for almost four hours free of any external power supply. This might easily be a record achievement among satellite measuring devices!

In addition, the low-threshold tuner proved its worth whenever weak satellites came into play. It helped aligning the antenna with a C/N as low as 3.5 dB. The 'Utilities' menu is the place to go for customising the SatCatcher DigiPro Excel-TV MK3 to individual requirements. In case you cannot or do not want to use the PC software you can enter your local geographic position here. In addition, a pre-defined period of time can be selected after which the measuring device turns off automatically if not used, which helps increase battery life.

When we looked for a way to change the default language, however, we did not find any such option. We finally came across a statement on the manufacturer's website saying that regional distributors will add localised software before shipping. This way customers will receive the SatCatcher DigiPro Excel-TV MK3 with on-screen texts in their own language.

Transponder Settings

Transponder data stored in the DigiPro Excel-TV MK3's internal memory is subject to change, as dozens of transponders are switched off, turned on or modified on each single day. But SatCatcher made it very easy to change or add transponder data on-site. The installer can easily change every parameter of a transponder or add a new one with a few buttons. Most other meters on the market can not be fully controlled by the user this way and we can just praise SatCatcher for making it so easy for the user.

But of course the DigiPro Excel-tV MK3 can also be updated by PC; SatCatcher has chosen to add an interface for connecting the device to a PC. In combination with the included software application all transponder data can then conveniently be edited on the PC, or you may turn to www.satcatcher.com in regular intervals for updated satellite and transponder lists which can be transferred to the device with only a few mouse clicks. The SatCatcher software even calculates the selected satellite's Azimuth, elevation and polarisation angles directly on the PC (provided the application knows your position, which can be determined using geographic coordinates or selecting a city or country out of a list).

To sum up, we can clearly state that the SatCatcher DigiPro Excel-TV MK3 is an absolutely worthwhile alternative to professional measuring devices. It provides all relevant features and can easily be programmed. Thanks to its implementation of all DiSEqC protocols and also the SCR standard even professional installers needn't look any further.

Expert Opinion

Thomas Haring
TELE-satellite
Test Center
Austria

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The SatCatcher DigiPro Excel-TV MK3 is easy and self-explanatory to use while still offering a wide range of helpful features. Apart from spectrum analysis this device is also capable of showing measurement results on its display and can even be used to watch TV channels. All DiSEqC protocols are supported and SCR (Unicable) is available as well. Transponder Settings can be changed manually very easily.

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The only thing that makes the SatCatcher DigiPro Excel-TV MK3 short of perfect is the missing MER analysis.

TECHNICAL DATA

Distributor	SatCatcher, Unit 7 Salvesen Way Hull, East Yorkshire, UK HU3 4UQ, United Kingdom
Tel	+44 (0) 148 222 15 77
Email	sales@satcatcher.com
Model	Digipro Excel-TV MK3
Frequency range	930~2150 MHz
Level range	-65 dBm ~ -25 dBm
Input resistance	75 Ohm
Symbol rate	2~45 Ms/s
DiSEqC	Yes (1.0,1.1, 1.2, 1.3)
SCR-Standard	Yes
Power supply	Up to 5 hours without recharge
Supplied items	Fold away sun visor, Software CD, User guide, Mains charging unit, Car charger, P.C. Connection cable, USB converter (optional)
Dimension	250x120x60mm
Net weight	0.8kg
Gross weight	1.6kg
Working temperature	0°C ~ +40°C
Display	120x64 3.5" LCD color display